



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/358,788	07/22/1999	MICHAEL J. HELLER	0031/81494/JPW/GC	1976
23432	7590	05/27/2011	EXAMINER	
COOPER & DUNHAM, LLP			FORMAN, BETTY J	
30 Rockefeller Plaza			ART UNIT	
20th Floor			PAPER NUMBER	
NEW YORK, NY 10112			1634	
			MAIL DATE	DELIVERY MODE
			05/27/2011	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 May 2011 has been entered.

### ***Status of the Claims***

2. This action is in response to papers filed 6 May 2011 in which claim 49 was amended. The amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 6 January 2011 are withdrawn in view of the amendments.

Applicant's arguments have been thoroughly reviewed but are deemed moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection are discussed.

Claims 49, 57-58 and 79-81 are under prosecution.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

Art Unit: 1634

and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 49, 57-58 and 79-81 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. Patent No. 6,017,696 in view of Cozzette (U.S. Patent No. 5,063,081).

Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to method for analyzing a nucleic acid sample by hybridization on electronically addressable microlocations wherein hybridization stringency is electronically controlled to remove non-specifically hybridized targets. The claim sets merely differ in the arrangement of limitations within the claim sets. For example, independent Claim 49 of the instant claim set defines electronic stringency control while dependent Claims 7, 15 and 45 of the '696 claim set provides this limitation. The claim sets further differ in that the instant claims further define the microlocations as comprising permeation and attachment layers.

Cozzette teaches a method similar to the patent comprising immobilizing a binding partner (e.g. DNA) onto one of a plurality of electrodes, contacting with the complementary binding partner and detecting the interaction (Column 52, lines 4-20). Cozzette further teaches the method includes adding a probe complementary to a portion of the target that is not hybridized to the immobilized probe in a sandwich format and detecting formation of the sandwich (Column 52, lines 11-15). Cozzette also teaches that the permselective layer also acts as an adhesion promoter for the attachment layer thereby facilitating biomolecule immobilization (paragraph spanning columns 13-14).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the permselective and attachment layers of Cozzette to the patent electrodes. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success based on the teachings of

Art Unit: 1634

Cozzette. The artisan would have been further motivated to do so for the expected benefits of providing a barrier against interfering ionic species while allowing transport of smaller detectable moieties of interest and facilitating biomolecule immobilization as desired in the art (Cozzette, paragraph spanning columns 13-14).

5. Claims 49, 57-58 and 79-81 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. Patent No. 6,048,690 in view of Cozzette (U.S. Patent No. 5,063,081).

Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to method for analyzing a nucleic acid sample by hybridization on electronically addressable microlocations wherein hybridization stringency is electronically controlled to remove non-specifically hybridized targets. The claim sets merely differ in that the instant claims define the structure of the electronic stringency control device e.g. microlocations comprising permeation and attachment layers while the patent is silent regarding the structure.

However, Cozzette teaches the structure of the electronic device including a permselective layer also acts as an adhesion promoter for the attachment layer thereby facilitating biomolecule immobilization (paragraph spanning columns 13-14).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the permselective and attachment layers of Cozzette to the patent electrodes. One of ordinary skill in the art would have been

Art Unit: 1634

motivated to do so with a reasonable expectation of success based on the teachings of Cozzette. The artisan would have been further motivated to do so for the expected benefits of providing a barrier against interfering ionic species while allowing transport of smaller detectable moieties of interest and facilitating biomolecule immobilization as desired in the art (Cozzette, paragraph spanning columns 13-14).

6. Claims 49, 57-58 and 79-81 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-37 of U.S. Patent No. 5,849,486 in view of Cozzette (U.S. Patent No. 5,063,081).

Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to method for analyzing a nucleic acid sample by hybridization on electronically addressable microlocations wherein hybridization stringency is electronically controlled to remove non-specifically hybridized targets. The claim sets merely differ in that the instant claims define the structure of the electronic stringency control device e.g. microlocations comprising permeation and attachment layers while the patent is silent regarding the structure. However, Cozzette teaches the structure of the electronic device including a permselective layer also acts as an adhesion promoter for the attachment layer thereby facilitating biomolecule immobilization (paragraph spanning columns 13-14).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the permselective and attachment layers of

Art Unit: 1634

Cozzette to the patent electrodes. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success based on the teachings of Cozzette. The artisan would have been further motivated to do so for the expected benefits of providing a barrier against interfering ionic species while allowing transport of smaller detectable moieties of interest and facilitating biomolecule immobilization as desired in the art (Cozzette, paragraph spanning columns 13-14).

7. Claims 49, 57-58 and 79-81 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 7,582,421.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to method for analyzing a nucleic acid sample by hybridization on electronically addressable microlocations comprising a permeation layer wherein hybridization stringency is electronically controlled to remove non-specifically hybridized targets.

The claim sets merely differ in the arrangement of limitations within the claim sets. For example, independent Claim 49 of the instant claim set defines electronic stringency control while dependent Claim 8 of the patent provides this limitation. The claim sets further differ in that the patent defines additional steps of fluorescent labeling and detection. However, the open claim language "comprising" of the instant claims



Art Unit: 1634

encompasses the additional elements of the patent claims. Therefore the instant claims are generic to the patent claims and therefore an obvious embodiment.

***Conclusion***

8. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betty Forman whose telephone number is (571)272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Nguyen can be reached on (571) 272-0731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Betty Forman  
Primary Examiner  
Art Unit 1634

/Betty Forman/  
Primary Examiner, Art Unit 1634